

The Florida Senate
COMMITTEE MEETING EXPANDED AGENDA

AGRICULTURE
Senator Montford, Chair
Senator Dean, Vice Chair

MEETING DATE: Tuesday, December 1, 2015
TIME: 10:00 a.m.—12:00 noon
PLACE: 301 Senate Office Building

MEMBERS: Senator Montford, Chair; Senator Dean, Vice Chair; Senators Bullard, Galvano, Garcia, Grimsley, and Sobel

TAB	BILL NO. and INTRODUCER	BILL DESCRIPTION and SENATE COMMITTEE ACTIONS	COMMITTEE ACTION
		Presentation by Johnny Georges, Founder of Tree T-PEE	
		Presentation by the Future Farmers of America	
		Update on Citrus Greening	
		Other Related Meeting Documents	

THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

12/1/15

Meeting Date

Bill Number (if applicable)

Topic Tree T-PEE

Amendment Barcode (if applicable)

Name Johnny Georges

Job Title founder of Tree T-PEE

Address 11953 Xavier Avenue

Phone 863-381-8014

Street

Johnny@treepee.com

Port Charlotte FL

33981

Email Morgan@treepee.com

City

State

Zip

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing _____

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)



12/11/15
Meeting Date

Bill Number (if applicable)

Topic Tree T-PEE

Amendment Barcode (if applicable)

Name Morgan Norris

Job Title Director of Marketing

Address 11953 Xavier Avenue
Street

Phone 863-381-8014

Port Charlotte FL 33981
City State Zip

Email Morgan@treepee.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing _____

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

12-1-15

Meeting Date



Bill Number (if applicable)

Topic FFA

Amendment Barcode (if applicable)

Name BROOKS PARRISH

Job Title FFA state president

Address PO BOX 82

Street

Phone 352-494-4638

Trenton

FL

32693

City

State

Zip

Email brooksparrish@gmail.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Florida FFA

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)



12/1/15

Meeting Date

Bill Number (if applicable)

Topic FFA

Amendment Barcode (if applicable)

Name Anne Schwartz

Job Title FFA Representative/Secretary

Address 2800 SW 35th Pl

Phone (813) 957-0021

Street

Gainesville FL 32608

City

State

Zip

Email anne.schwartz@flaffa.org

Speaking: [] For [] Against [X] Information

Waive Speaking: [] In Support [] Against (The Chair will read this information into the record.)

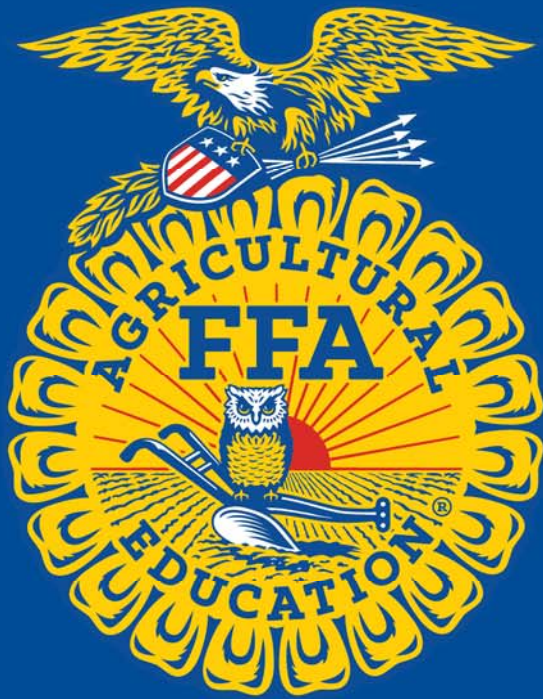
Representing Florida FFA

Appearing at request of Chair: [] Yes [X] No

Lobbyist registered with Legislature: [] Yes [X] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.



FLORIDA FFA ASSOCIATION

The Next Generation of Agriculturalists

70%

By 2050, agricultural production will need to increase by 70% in order to feed 9 billion people. With less land, water, and resources.

The future of agriculture is much more than farming. It's about the **next generation of agriculturalists** and a **new age of discovery.**





We are addressing a very key issue: the growing need for young, talented people in a variety of fields to consider a career in agriculture.



FFA is only part of a comprehensive strategy to build a heroic workforce and reconnect people with agriculture.

1928

33 farm boys started the organization in 1928, and now over 610,000 members are developing their potential for premier leadership, personal growth, and career success through agricultural education and FFA.

FFA is the most recognized component of agricultural education, but Supervised Agricultural Experiences and the classroom create a complete experience for our students.





Students can choose from eight different career pathways, preparing them for the workforce and college.



Supervised Agricultural Experiences allow students to gain real-world experience and apply their skills and knowledge from FFA and the classroom.



Agricultural education proudly provides students with one of the most complete educational experiences available.

We've got some work to do before 2050, but we're up for the challenge. Our growing pains are a positive sign:

- Record membership
- Record participation



As we continue to grow and close the gap, we face some challenges we hope to overcome:

- FFA has reached its capacity in regards to the services and opportunities we provide our members
 - Recruiting and retaining qualified and certified teachers
 - Classroom size and funding
- 



Together, we'll face these issues in an effort to tackle a global challenge.



THE FFA MISSION

FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education.

THE AGRICULTURAL EDUCATION MISSION

Agricultural education prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resource systems.

The Florida FFA Association is a resource and support organization that does not select, control, supervise or approve local chapter or individual member activities except as expressly provided for in the Florida FFA Constitution and Bylaws.

The Florida FFA Association affirms its belief in the value of all human beings and seeks diversity in its membership, leadership and staff as an equal opportunity employer.

THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

12/1/15

Meeting Date

Bill Number (if applicable)

Topic CITRUS HLB- Reasearch UPDATE

Amendment Barcode (if applicable)

Name Harold Browning

Job Title Chief Operations Officer

Address 700 Experiment STN. Road

Phone 863-207-4612

Street

Lake Alfred

Florida 33850

Email HWBR@CITRUSRDF.ORG

City

State

Zip

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Citrus Industry - Citrus Research & Development Foundation

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

S-001 (10/14/14)

Citrus Research and Development Foundation, Inc.



**Update from CRDF:
Florida Citrus Solutions for HLB**

Florida Senate Agriculture Committee

December 1, 2015

Harold Browning, COO

Florida Citrus by Boxes & Acres



130,108 Acres of Abandoned Groves

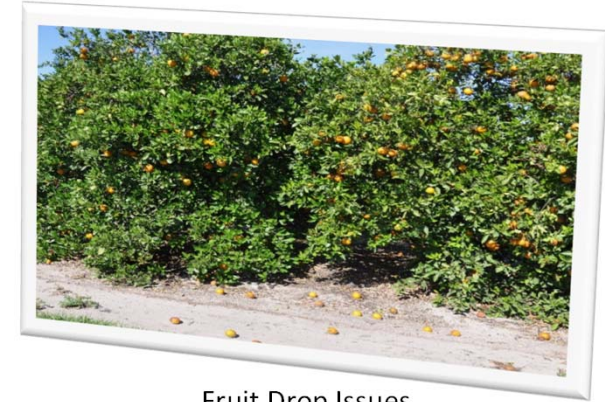
Stressed Grove



Season	Boxes	Bearing Acres
2007-08	203,800,000	538,900
2008-09	189,200,000	530,900
2009-10	159,350,000	517,100
2010-11	166,050,000	503,600
2011-12	170,990,000	495,100
2012-13	156,230,000	489,600
2013-14	124,030,000	476,300
2014-15	112,650,000	460,641
2015-16 (f)	88,350,000*	445,786

*USDA Estimate for Total Citrus Crop (Nov. 10, 2015)

*UF/IFAS Economist forecast a loss of 18,000 jobs and economic impact of \$3.0 billion annually if the estimate is realized.



Fruit Drop Issues

Healthy Grove





Citrus Research & Development Foundation

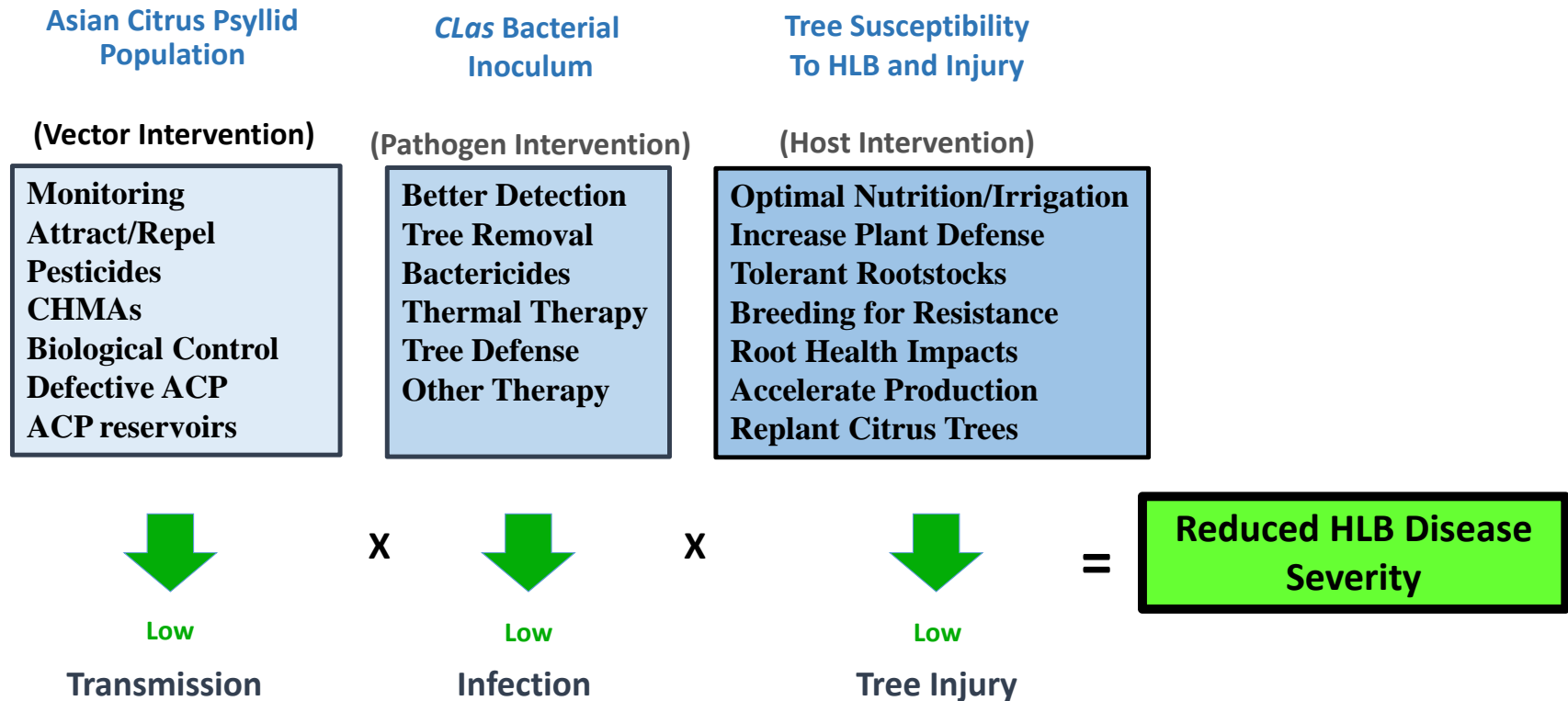
CRDF Programs at a Glance, December, 2015

93 Research and Product Delivery Projects

\$16,136,000 FY 2015-16 Annual Budget

Priority: Deliver solutions coming from research
Redirection from sponsored research focus

Ultimate HLB Management



VECTOR INTERVENTION

Asian citrus Psyllid Management and Citrus Health Management Areas

Project goal(s) for this project area:

- Pursue actions that will support expanded tools for ACP management
- Engage registrants and regulatory entities in need for label modifications
- Participation in pesticide stewardship activities
- Support CHMA implementation of ACP and other HLB management tools
- Continue efforts on alternative management practices for ACP

RNAi for ACP Suppression

Objectives

- RNAi Molecules: Silence targeted ACP genes using the CTV vector to achieve desired alterations in psyllid physical state or behavior
- Test the efficacy of the above alterations on area-wide psyllid control

Progress in achieving goals

- Concluded multi-year study that evaluated plant characterization of dsRNA effects on all psyllid life stages
- Identified dsRNA molecules that will be advanced for further evaluation
- Established and refined the parameters of the mathematical model of RNAi effects on area wide protection of new plantings

**Pathogen Intervention
Therapies to Reduce Bacteria in Infected Trees**

Thermal Therapy

- Solar tent and supplemental heat
- Thousands of trees treated (82,000 at last count)
 - Time/temperature refinement
 - Evaluation of *CLAs* reduction and tree response
- More growers treating small trees with tents
- Commercial scale-up
 - Grower Initiatives
 - CRDF Evaluation
 - > 15 field sites being evaluated
 - Field day December 3, Lake Wales



Premier Energy Thermal Treatment

- Utilize steam and hot water as the supplemental heat source
- 122 F – 128 F
- 30 seconds
- 2 Canopy sizes
 - 10' octagon canopy
 - 7' rectangular canopy
- 20,000+ trees treated
- Designing a root treatment system
- Working on a design that will treat hedgerows





Treated with Dr. Ehsani's
steam machine. 125 F for
30 seconds.

August 15, 2014

August 4, 2015



Bactericide Candidates

- Bactericides used in agriculture – already have EPA registration
- Biopesticides – reduced risk process
- Materials from EPA exempt lists
- New active ingredients – No current EPA Registration for any use

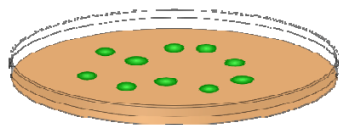


CRDF Stepwise Assay Pipeline

Increase in biological relevance



Decrease in throughput



***Liberibacter crescens* (laboratory) assay**-tests bactericidal activity and dose response



Whole plant (greenhouse) assay-tests phloem entry and mobility, activity against CLas, dose response and phytotoxicity

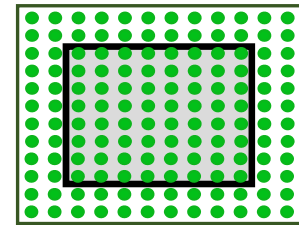


Field trials-tests activity, dose response, phloem entry and mobility, phytotoxicity, application methods, residues, fruit drop and quality

Field Use

Field Trials of Bactericides

- Best Candidates Progress from Assays to Field Trials
- Small-scale Field Trials of Candidates
 - Dose Response and Phytotoxicity
 - Formulation and Application Methods
- Multi-Year Field Evaluation of Commercially Available Materials
 - Bactericides/Fungicides & Naturally Occurring Microbe Products
- Large-plot Grower Trials of Promising Candidates
- Full-scale Field Trials Conducted by Registrants
 - Multi-site Evaluation of Activity, Dose, Application, Residues



Bactericides Used in Agriculture

Florida HLB Research Supported by CRDF:

AgroSource: 2014-15 and 2015-16 season

- Resistance Monitoring in association with Firewall® Section 18 on grapefruit for suppression of citrus canker
- Efficacy of Firewall® against citrus canker on round oranges
- Field efficacy of Firewall® and Fireline® against HLB on citrus
- Complete Residue series for citrus crop group (US label data packet) (2014)

NuFarms: 2015-16 season

- Complete residue series for citrus crop group Mycoshield®
- Efficacy field trials 2014-15 and 2015-16 not funded by CRDF

CRDF Strategy

Work with FFVA to submit and support Section 18 petition including

- Firewall® streptomycin
- Fireline® oxytetracycline
- Mycoshield® oxytetracycline

Evaluate strength of evidence of effect and economics

Consider application of portfolio of products as treatment series

Highlight value of rotation of materials

Provide support for follow-up with state and federal agencies

Deliver approval for use in spring, 2016

Host Plant Intervention

Horticultural Practices to Complement HLB Disease Management

Prolong Existing Inventory of Diseased Trees

- Naturally Occurring Microbial Soil Amendments
- Plant Growth Regulators - Fruit Drop due to HLB
- Integrated Root Health Practices
 - Modify irrigation water or soil pH
 - Reduce bicarbonates in irrigation water
- Rootstock and scion HLB – tolerance/resistance

HLB Resistance or Tolerance

- Significant research and delivery investment – 43% of current portfolio
- Field trials across state show promise
- CRDF grower trials of tolerant rootstocks
- Knowledge mapping exercise– organize, focus, accelerate delivery of HLB resistance/tolerance to growers
- Results can be implemented as new groves are planted

Commercial Scale Field Trial of Tolerant Rootstocks



Rootstock Field Day November 10, LaBelle



Summary

- Significant movement of solutions to field is ongoing
- Growers are directly involved in final-stage evaluation
- Interventions are targeting all aspects of the disease
 - Vector Asian citrus psyllid
 - Bacterium Candidatus Liberibacter asiaticus
 - Host citrus plant
- Developmental research continues to advance long-term, sustainable solutions
- Removal of unmanaged citrus is a priority for the industry
- Continued Legislative Support has been critical to sustain the effort to provide solutions to HLB



**Thank you for the Support that the State of Florida has
Provided to Florida Citrus Growers
During this Challenging Campaign Against HLB**

CRDF is proud to provide support to the Florida citrus industry

Florida Citrus by Boxes & Acres



130,108 Acres of Abandoned Groves

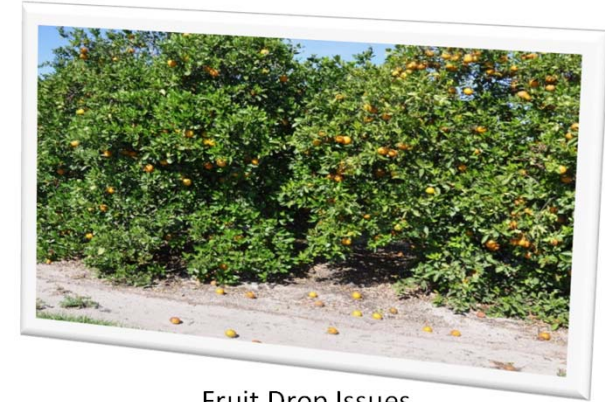
Stressed Grove



Season	Boxes	Bearing Acres
2007-08	203,800,000	538,900
2008-09	189,200,000	530,900
2009-10	159,350,000	517,100
2010-11	166,050,000	503,600
2011-12	170,990,000	495,100
2012-13	156,230,000	489,600
2013-14	124,030,000	476,300
2014-15	112,650,000	460,641
2015-16 (f)	88,350,000*	445,786

*USDA Estimate for Total Citrus Crop (Nov. 10, 2015)

*UF/IFAS Economist forecast a loss of 18,000 jobs and economic impact of \$3.0 billion annually if the estimate is realized.



Fruit Drop Issues

Healthy Grove



Overview of Federal and State Citrus Greening Funding

- 🍊 Found the disease in 2005 in a commercial citrus grove
 - 🍊 We knew next to nothing about the disease or vector
 - 🍊 Some scientists reported a five year demise of the industry
- 🍊 HLB and the Asian Citrus Psyllid are not native to Florida or the USA
- 🍊 We immediately understood finding solutions was going to be expensive starting from ground zero in the laboratory.
- 🍊 It became apparent to Florida Citrus Mutual and the citrus industry that “our absolute highest priority” was uncovering every funding source at the state and federal level to support the research effort.



Healthy Grove

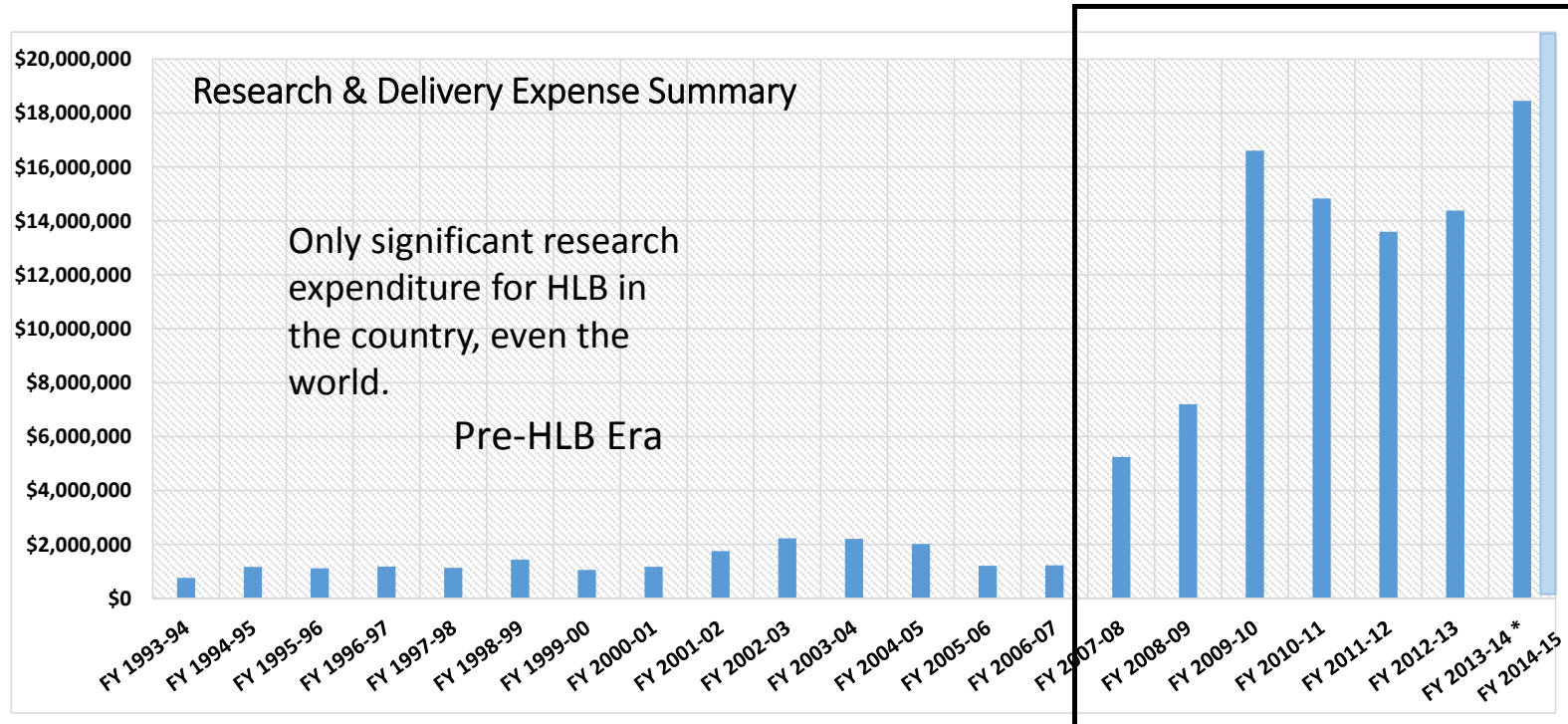


Stressed Grove



130,108 acres of
abandoned groves

Citrus Industry Research Investments



- 🍊 Florida citrus growers have a long history of a self-imposed tax to support citrus research, which supplemented the UF (IFAS) USDA effort.
- 🍊 The creation of the Citrus Research and Development Foundation (CRDF) helped the industry grow beyond the Florida Citrus Production Research Advisory Council (FCPRAC) and toward something more structured to manage a world-class research push.
 - 🍊 Stakeholder driven

History of HLB Research Funding In Millions of Dollars

Fiscal Year	Grower Box Tax	FI Dept. of Citrus	State Approps	Federal Funds	Private Donations	Subtotal	Farm Bill	Total
2007-08	\$ 1.5	\$ 2.1	\$ 4.0	\$ 0	\$ 0	\$ 7.6	\$ 0	\$ 7.6
2008-09	1.7	7.2	1.9	0	0	10.8	0	10.8
2009-10	2.2	7.1	0.5	0	0	9.8	0	9.8
2010-11	1.6	8.0	0	0	1.0	10.6	0	10.6
2011-12	2.7	8.5	0	11.0	1.6	23.8	0	23.8
2012-13	5.1	7.5	2.0	1.9	1.0	17.5	0	17.5
2013-14	5.0	2.5	8.0	2.6	1.0	19.1	0	19.1
2014-15	3.3	2.5	3.5	3.7	2.3	15.3	21.0	36.3
2015-16	<u>3.0</u>	<u>0</u>	<u>8.0</u>	<u>4.2</u>	<u>0.6</u>	<u>15.8</u>	<u>25.0</u>	<u>40.8</u>
Total	<u>\$26.1</u>	<u>\$45.4</u>	<u>\$27.9</u>	<u>\$23.4</u>	<u>\$7.5</u>	<u>\$130.3</u>	<u>\$46.0</u>	<u>\$176.3</u>

- 🍊 With the help of Commissioner Putnam and many others in this room, we have had some great success both in Tallahassee and Washington D.C.
- 🍊 The History of HLB Research funding requires a detailed look at the available resources that FCM, industry organizations and CRDF pursued.

Overview of Federal and State Citrus Greening Funding

- 🍊 The cost of research is great; a grand total of \$176 million in the past nine years. Now time is working against the Florida citrus grower.
- 🍊 The cost of NOT having research and results is huge.
 - 🍊 Negative effects on Florida citrus, dwarfs the costs of research, currently the citrus industry generates \$10.7 billion ANNUAL economic impact and 62,000 jobs.
 - 🍊 Forecasted with an 80 million box orange crop, jobs could drop to 43,700 and the economic impact \$7.7 billion.
- 🍊 Our faith and future of Florida Citrus is in research.
- 🍊 Losing the fight against HLB is NOT an option.

* Source: University of Florida, Institute of Food and Agricultural Sciences, 2015, Drs. Hodges and Spreen.





THE FLORIDA SENATE

Tallahassee, Florida 32399-1100

COMMITTEES:

Agriculture
Appropriations Subcommittee on Education
Education Pre-K-12
Government Oversight and Accountability
Transportation, Vice Chair

JOINT COMMITTEE:

Joint Administrative Procedures Committee
Joint Select Committee on Collective
Bargaining

SENATOR DWIGHT BULLARD
39th District

December 1st, 2015

Chairman Montford,

I am requesting to be excused from our Agriculture Committee meeting on Tuesday, December 1st, 2015 due to a family-related issue. Thank you for your consideration.

Sincerely,

Dwight M. Bullard

State Senator, District 39

REPLY TO:

- 10720 Caribbean Boulevard, #435, Cutler Bay, Florida 33189
- 218 Senate Office Building, 404 South Monroe Street, Tallahassee, Florida 32399-1100 (850) 487-5039

Senate's Website: www.flsenate.gov

DON GAETZ
President of the Senate

GARRETT RICHTER
President Pro Tempore

CourtSmart Tag Report

Room: SB 301

Caption: Senate Agriculture Committee

Case No.:

Judge:

Type:

Started: 12/1/2015 10:02:29 AM

Ends: 12/1/2015 11:24:18 AM

Length: 01:21:50

10:03:10 AM Meeting called to order
10:03:32 AM quorum present
10:04:11 AM Sen. Monford opening meeting
10:06:02 AM Senator Simpson describing project to be presented
10:08:01 AM Johnny Georges, Founder of Tree T-Pee recognized to present with Morgan Norris
10:09:11 AM Video presentation from the Tree T-PEE representatives
10:12:43 AM Johnny Georges speaking to present his Tree T-PEE Project
10:14:40 AM Senator Galvano recognized with question
10:14:48 AM Johnny Georges response
10:14:58 AM Senator Galvano follow-up question
10:15:21 AM Johnny Georges response
10:17:25 AM Sen. Montford comments
10:17:34 AM Johnny Georges response
10:19:01 AM Senator Sobel recognized
10:19:13 AM Johnny Georges response
10:19:18 AM Johnny Georges response
10:19:43 AM Senator Sobel with follow-up question
10:19:47 AM Senator Montford response
10:20:43 AM Senator Sobel with another question
10:20:48 AM Johnny Georges response
10:20:56 AM Senator Sobel follow-up
10:21:00 AM Johnny Georges response
10:21:16 AM Senator Grimsley with a comment
10:21:55 AM Senator Grimsley recognizing Morgan with Tree T-PEE
10:23:16 AM Johnny Georges speaking
10:24:23 AM Senator Dean recognized
10:25:02 AM Senator Garcia recognized
10:25:12 AM Johnny Georges response
10:27:16 AM Senator Montford comments
10:27:22 AM Johnny Georges response
10:29:10 AM Senator Montford closing comments
10:29:18 AM Johnny Georges response
10:29:47 AM Senator Montford presents Future Farmers of America representatives
10:30:28 AM Powerpoint Presentation from Future Farmers of America representatives
10:30:57 AM Brooks Parrish and Anne Schwartz with Florida FFA presentation
10:36:22 AM Senator Montford comments
10:36:38 AM Senator Dean recognized with a question
10:36:53 AM Senator Dean points out he was an FFA member
10:36:59 AM Senator Montford comments
10:37:33 AM Anne Schwartz and Brooks Parrish recognized to speak
10:38:00 AM Senator Montford comments
10:38:24 AM Senator Montford introduces Citrus Greening topic
10:38:32 AM Senator Galvano recognized
10:42:44 AM Senator Grimsley recognized
10:43:47 AM Senator Montford with question for Dr. Browning
10:43:56 AM Dr. Harold Browning with response
10:44:28 AM Harold Browning recognized to present on Citrus Greening
11:09:11 AM Senator Dean recognized with question
11:09:56 AM Harold Browning response
11:13:03 AM Senator Dean recognized for follow-up question
11:14:01 AM Harold Browning response
11:15:46 AM Senator Galvano recognized with question

11:16:27 AM Harold Browning response
11:18:47 AM Senator Galvano with follow-up question
11:19:05 AM Dr. Harold Browning with response
11:19:47 AM Senator Galvano follow-up comments
11:20:01 AM Senator Galvano with question
11:20:06 AM Dr. Harold Browning with response
11:21:06 AM Senator Montford with question
11:22:16 AM Dr. Harold Browning response
11:23:48 AM Senator Montford with closing comments on Citrus Greening topic
11:24:12 AM Senator Montford closing meeting adjourned